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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,231	09/25/2006	Kaneo Nozawa	Q85086	7386

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EXAMINER	
VALENROD, YEVGENY	
ART UNIT	PAPER NUMBER
1621	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,231	NOZAWA ET AL.	
	Examiner	Art Unit	
	YEVEGENY VALENROD	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The following is second non-final office action in application # 10/594,231. This application has been reassigned to examiner Valenrod whose contact information is provided at the end of the instant document.

Amendments to claims filed 11/12/08 are acknowledged.

All rejections of record are withdrawn in view of applicants' remarks.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 6-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Holtdchmidt (US 2,821,544).

Scope of prior art

Holtdchmidt teaches preparation of acrylic ester isocyanate via reaction of chloropropionyloxyehtyl isocyanate with 10% excess of quinoline. Following the reaction the product is distilled off and is subject to a second distillation to produce the pure product (column 3, Example 1, lines 21-35). Holtdchmidt teaches that relatively weak bases such as for example quinoline or dialkyl anilines are suitable for the reaction (column 2, lines 25-26). Holtdchmidt also teaches that preferred temperature is between 100 and 200^{o}C (column 2, lines 26-27).

Ascertaining the difference between prior art and instant claims

Prior art differs from the instant claims in that

1) Only quinoline is exemplified as a tertiary amine base.

2) The temperature in Example 1 of Holtdchmidt is 160 ^{o}C which falls outside of the instantly claimed temperature range.

3) Prior art does not disclose the relative boiling points of the base and the product.

Obviousness

1) Using amines other than quinoline

One skilled in the arts would find it obvious to utilize an amine other than quinoline for the process disclosed by Holtdchmidt. Holtdchmidt specifically teaches that relatively weak bases are suitable for the reaction process and lists dialkyl aniline. Dialkyl aniline is a tertiary nitrogen base with at least one group other than aromatic ring group.

Dialkyl aniline therefore meets the structural limitations directed to the base in instant claims 1, 2, and 6-11.

One skilled in the arts would find it obvious to use a weak base other than dialkyl aniline in the invention of Holtdchmidt. Trialkyl amine is a relatively weak base (it considerably weaker than for example t-butoxide) and is therefore within the scope of the invention described by Holtdchmidt. There is sufficient expectation of success in using a trialkyl base because such bases has been envisioned by Holtdchmidt as being suitable for the invention.

2) Varying temperature of reaction

One skilled in the arts would find it obvious to vary the temperature of the process in example 1 of Holtdchmidt. Since Holtdchmidt describes a 100-200^{O}C range as being suitable for the process one would find it obvious to practice the invention, with expectation of success, within that disclosed range.

3) Relative boiling points of product and the base are inherent.

Boiling point of dimethyl aniline is 194 ^{O}C which is lower that boiling point of acryloyloxyethyl isocyanate (200 ^{O}C, see instant specification, page 22, lines 10-11).

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holtdchmidt as applied to claim 1 above, and further in view of Danielmeier et al. (US 6,222,066).

Difference between instant claims and prior art

Claims 4 and 5 differ from Holtdchmidt in that claims 4 and 5 require an ion-exchange resin having tertiary amine as a base for the process while Holtdchmidt teaches non-ion-exchange bases.

Secondary reference

Danielmeier et al teach ion-exchange resin having tertiary amine in a process for decreasing chlorine content of organic isocyanates.

Obviousness

The advantages of using ion-exchange resins are well known to those skilled in the arts. One advantage is that the reactive moiety that is attached to the resin can simply be filtered off at the end of the reaction thereby simplifying the purification procedure. One skilled in the arts would have found it obvious to utilize ion-exchange resin with tertiary amine functionality to perform a function that a tertiary amine performs in a non-resin process. Danielmeier utilizes an ion-exchange resin instead of a free base for purification of isocyanates and the disclosed advantage is the ease with which the resin can be separated. One skilled in the arts would therefore be motivated to utilize ion-exchange resin in other methods, such the one disclosed by Holtdchmidt. The expected result is that the process will function in a manner similar to the disclosed process with an additional advantage of simple removal of the amine from the reaction

mixture. Substituting an amine for a resin-linked amine is therefore obvious absent unexpected results.

Conclusion

Claims 1-11 are pending

Claims 1-11 are rejected

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yevgeny Valenrod whose telephone number is 571-272-9049. The examiner can normally be reached on 8:30am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Sullivan can be reached on 571-272-0779. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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